

# Service Manual

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**PIONEER**

**KPH-4130/EW**

KPH-4120 EW,ES

KPH-4120SDK/WG

ORDER NO.

CRT 1086

CASSETTE CAR STEREO WITH TUNER

DEZ.1986

MECHANIK = CX-166(CRT1094)



## 6. ADJUSTMENT

### • Connection Diagram

#### NOTICE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.

Z: Output impedance of SSG.

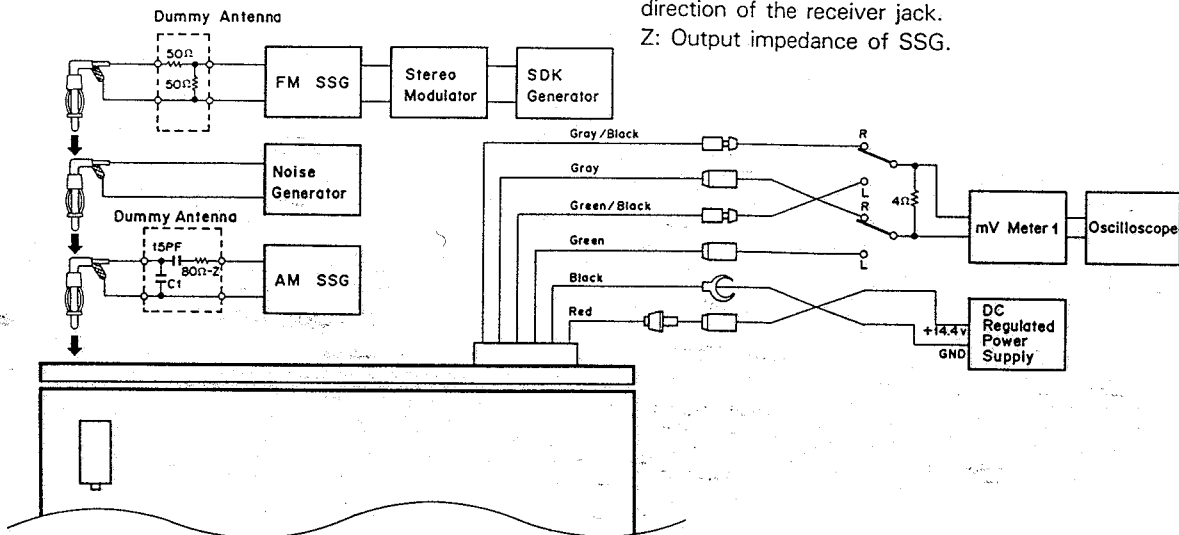


Fig. 15

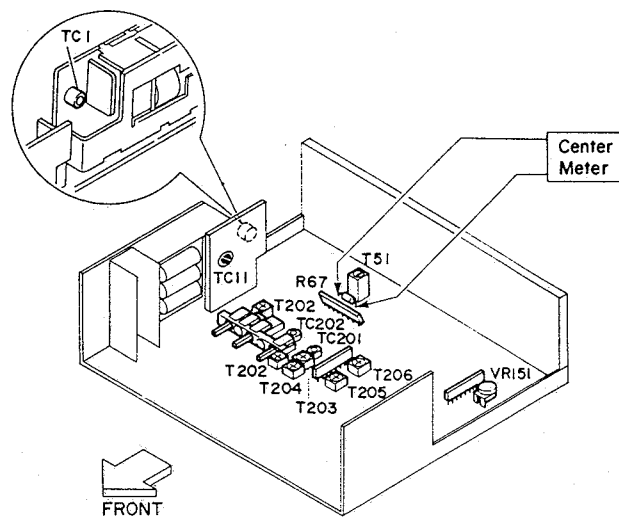


Fig. 16

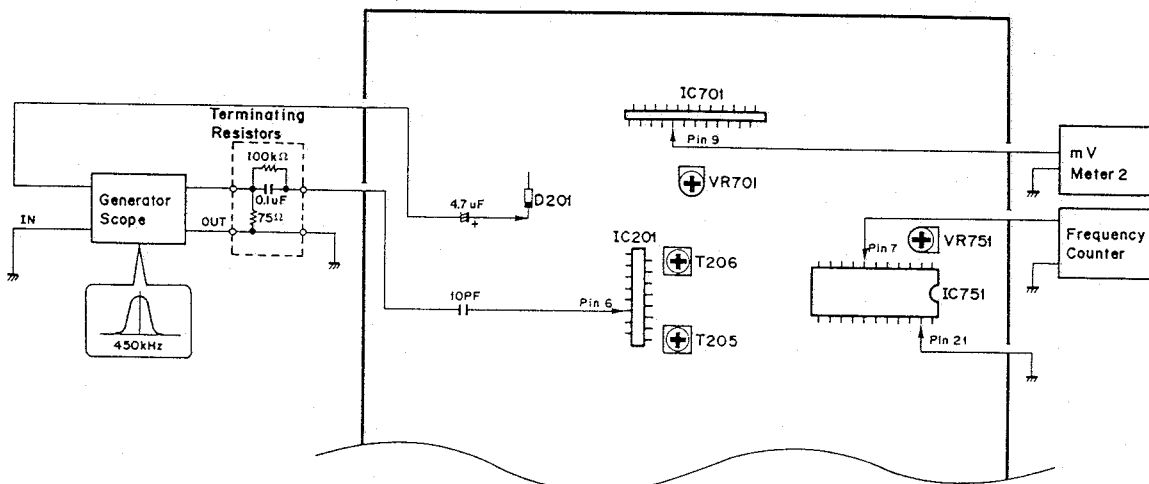


Fig. 17

• AM IF ADJUSTMENT

	No.	Generator Scope Level (dB)	Adjusting Point	Adjustment Method (Switch Position)
IF	1	Select a low range where U curve appears.	T205, 206	Make U curve symmetrical and its amplitude the maximum.

• AM (MW) TRACKING ADJUSTMENT

	No.	AM SSG (400 Hz, 30%)		Pointer Position	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level dB (μV)			
Track- ing	1	515	20	Minimum	T203	mV Meter 1: Maximum
	2	1,650	20	Maximum	TC201	mV Meter 1: Maximum
	3	Repeat No.1-2 alternately so that the mV Meter 1 indicates the maximum output.				
	4	1,400	20	Tune to 1,400 kHz	TC1, TC202	mV Meter 1: Maximum

• AM (LW) TRACKING ADJUSTMENT (KPH-4130/EW)

	No.	AM SSG (400 Hz, 30%)		Pointer Position	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level dB (μV)			
Track- ing	1	140	40	Minimum	T204	mV Meter 1: Maximum
	2	290	40	Maximum	T202	mV Meter 1: Maximum
	3	Repeat No.1-2 alternately so that the mV Meter 1 indicates the maximum output.				
	4	215	40	Tune to 215 kHz	T201	mV Meter 1: Maximum

• FM ADJUSTMENT \*1 Noise Generator \*2 Stereo MOD.: 1 kHz, L + R = 90%, Pilot = 10%

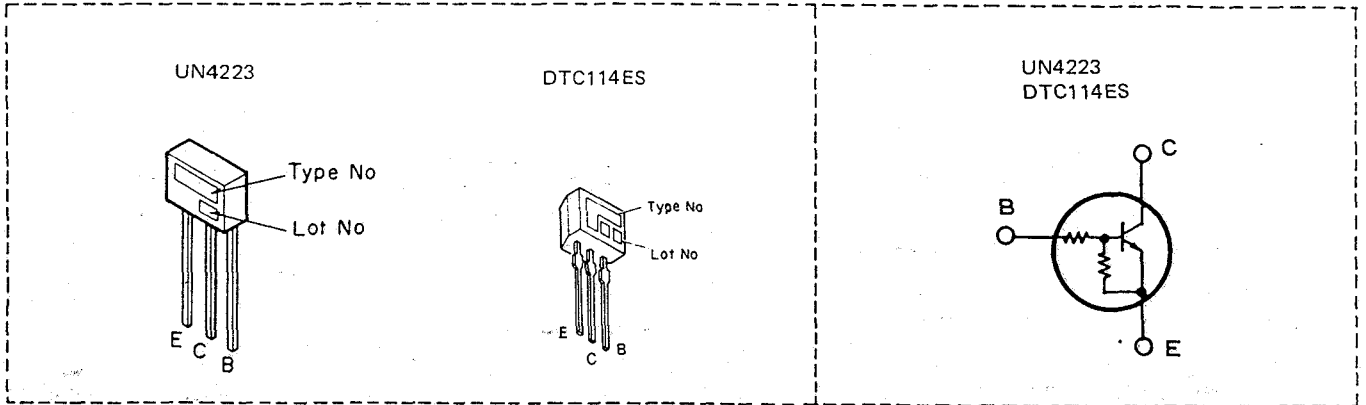
	No.	FM SSG (400 Hz, 100%)		Pointer Position	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level dB (μV)			
IF	1	*1		No Care	T51	Center Meter: 0
Track- ing	2	87.0 (EW,ES)	10	Minimum	TC11 (Front End)	mV Meter 1: Maximum
		87.5 (SDK/WG)	10			
	3	87.2 (SDK/WG)	10	Minimum	_____	87.2 MHz can not be received
	4	108.5 (EW,ES)	10	Maximum	_____	108.5 MHz can be received
		107.5 (SDK/WG)	10			107.5 MHz can be received
	5	108.3 (SDK/WG)	10	Maximum	_____	108.3 MHz can not be received
ARC	1	98.0*2	32	Tune to 98.0 MHz	VR151	mV Meter 1: Separation 5 dB (MONO SWITCH: AUTO)

• SDK ADJUSTMENT \*3 SDK MOD.: 400 Hz, L + R = 60%, 57 kHz (SK) = 5%, 125 Hz (DK) = 30%

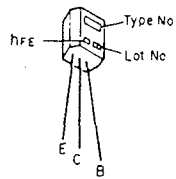
	No.	FM SSG *3		Pointer Position	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level dB (μV)			
SK	1	98.0	60	Tune to 98.0 MHz	VR701	mV Meter 2: Maximum SDK SWITCH: OFF
DK	1	98.0	60	Tune to 98.0 MHz	VR751	Frequency Counter: 125 ± 1 Hz SDK Switch: ON, Ground IC751 pin 21.



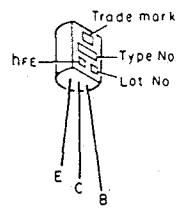
• ICs and Transistors



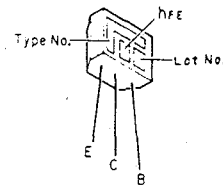
2SC1740S  
2SC2458  
2SC3113



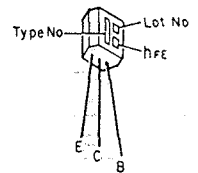
2SC2634NC



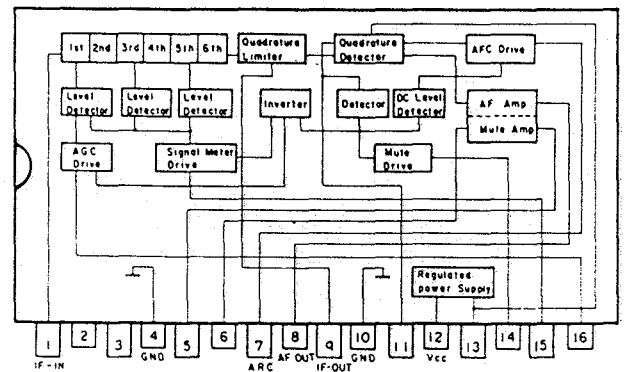
2SD1468S



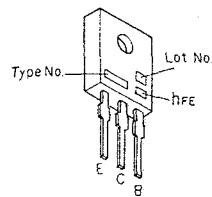
2SC536SP  
2SD1012



LA1140B



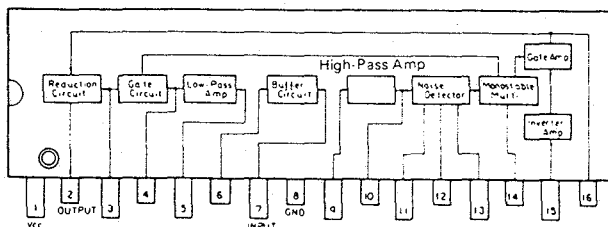
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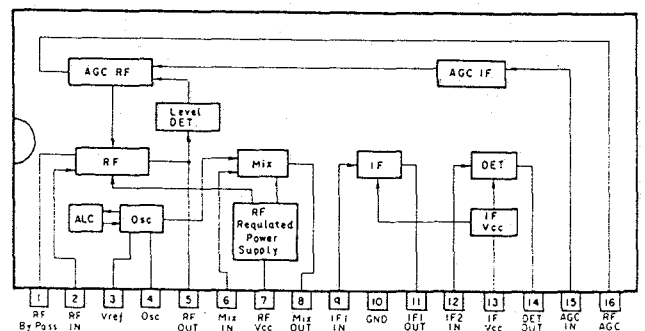
2SC3422



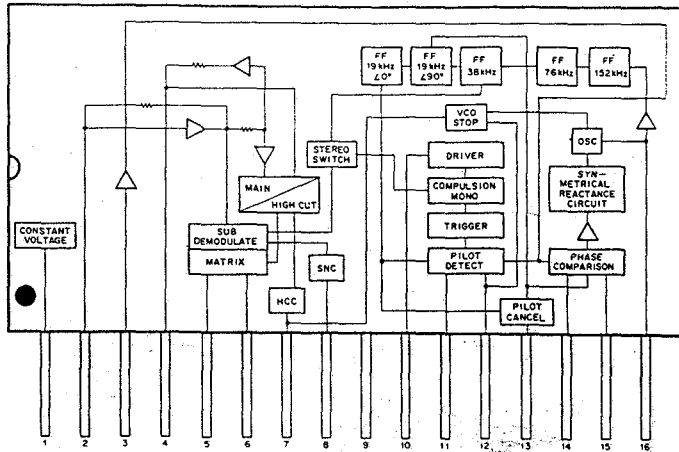
LA2110



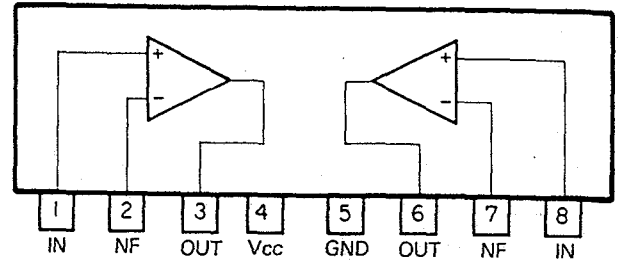
LA1130



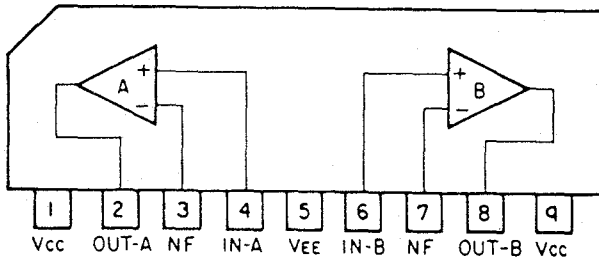
LA3430P



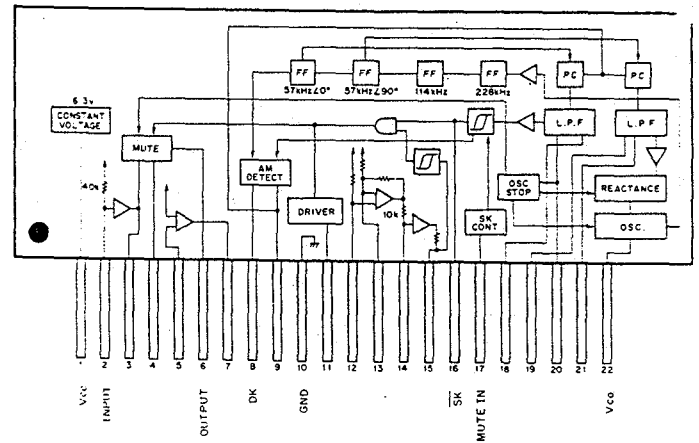
M51522AL



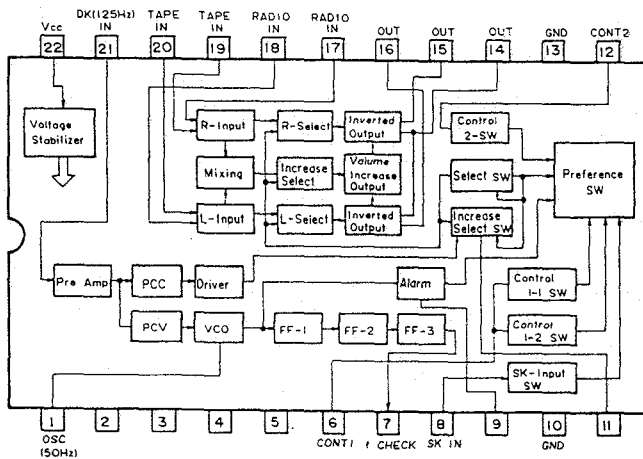
TA75558S



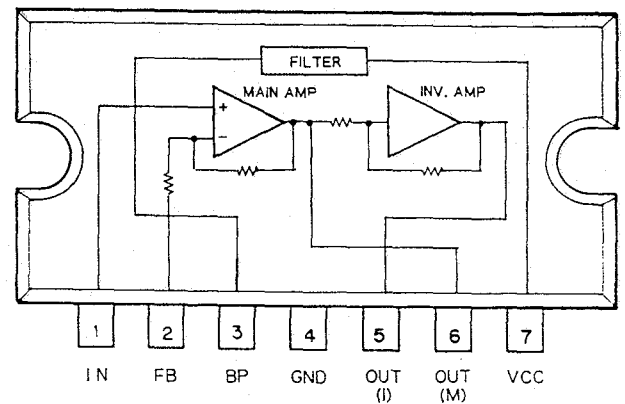
LA2220



LA2211

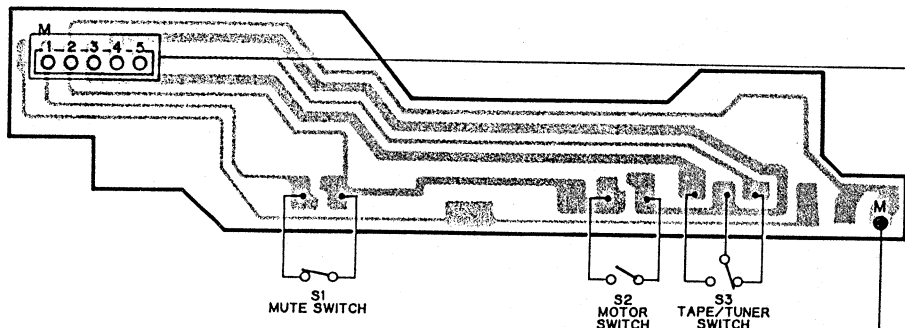


MB3732

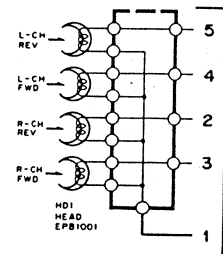


7. CONNECTION DIAGRAM (KPH-4130/EW)

A SWITCH P.C. BOARD

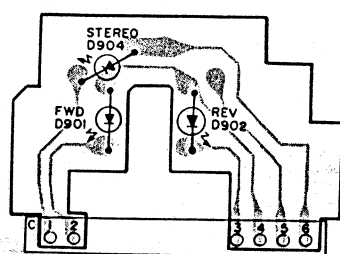


B

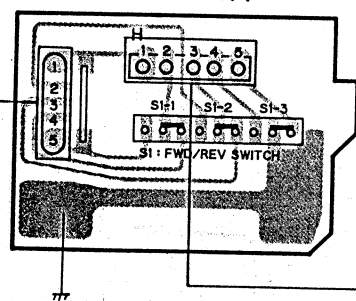


C

LED UNIT

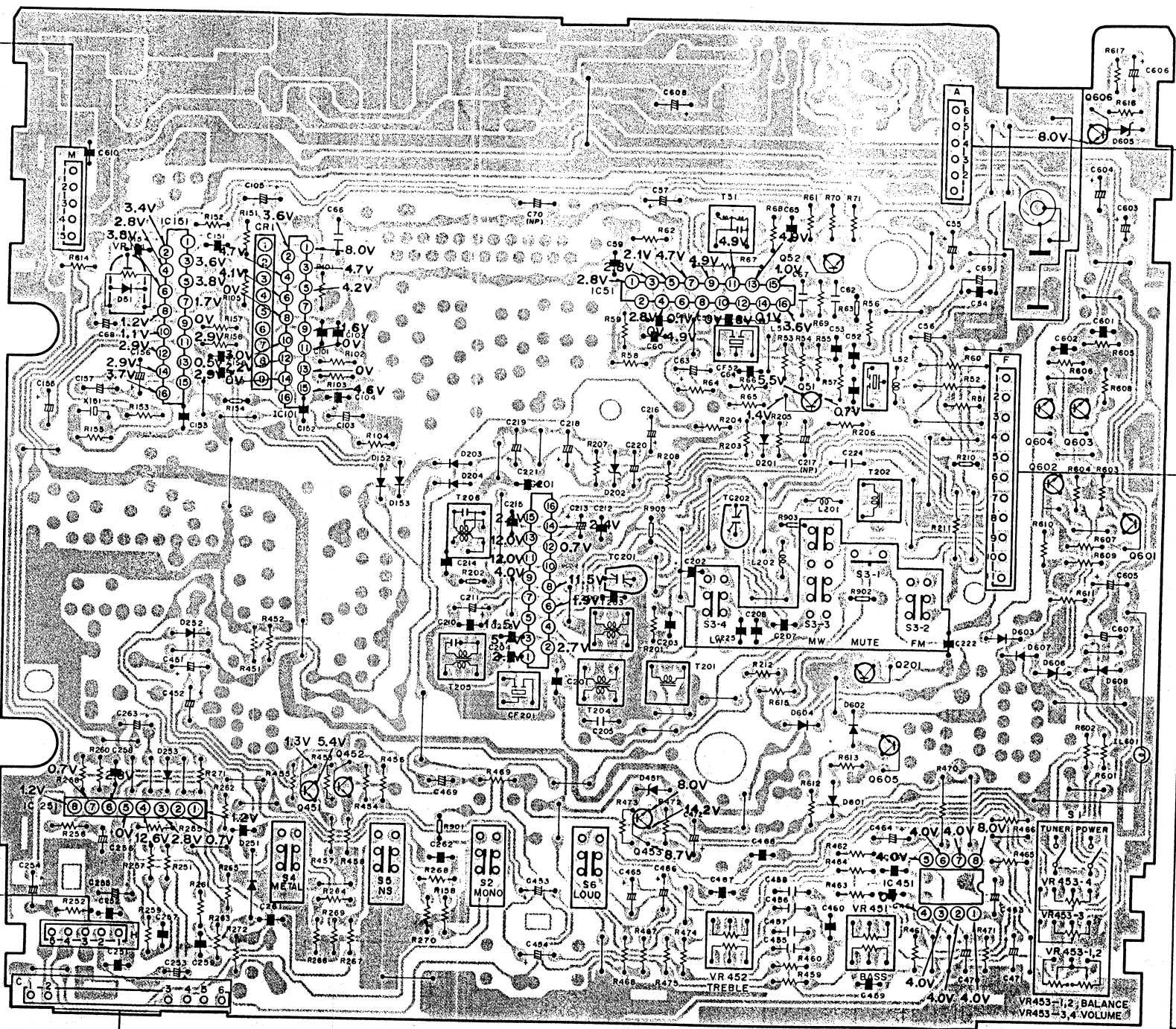


P.C. BOARD UNIT

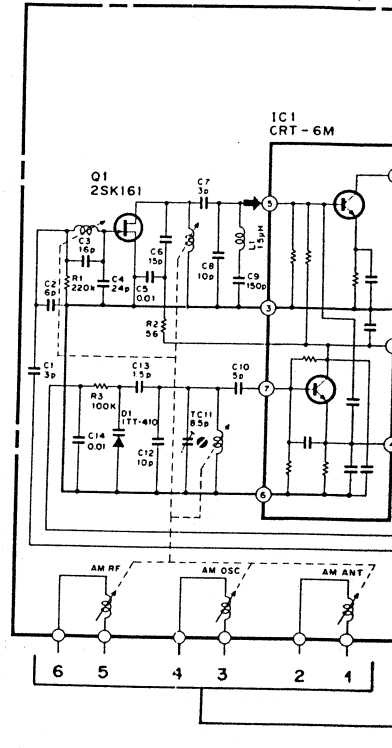


TUNER P.C. BOARD

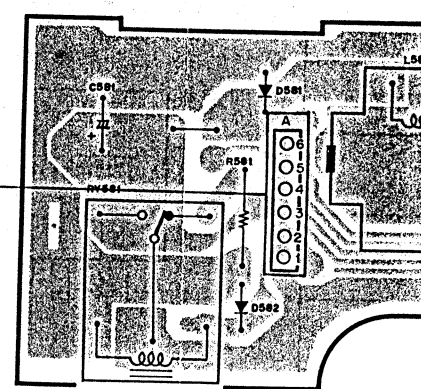
IC,Q IC251 IC151 IC101 Q451 Q452 IC201 Q453 IC51 Q52 Q201 Q604 Q606  
ADJ VR151 T206 T203 TC201 T51 TC202 Q51 Q605 IC451 Q602 Q603 Q601  
T205 T204 T202



FRONT END (CWB 1015)



AMP UNIT



4

5

6

7

8

9

IC101 Q451 Q452 IC201 Q453 IC51 Q52 Q51 Q201 Q605 IC451 Q604 Q606 Q602 Q603 Q601

T206  
T205

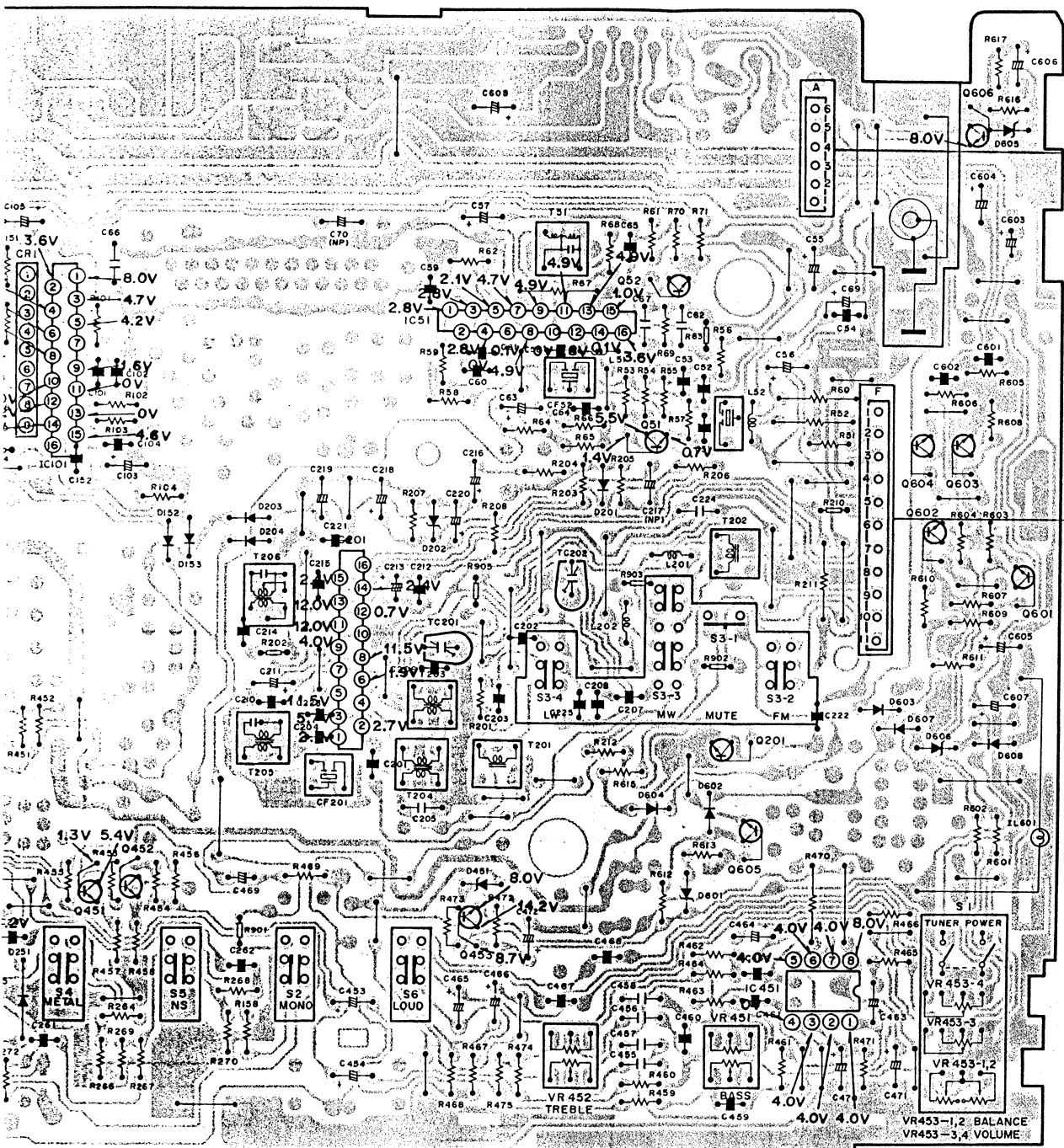
IC201

T203 TC201  
T204

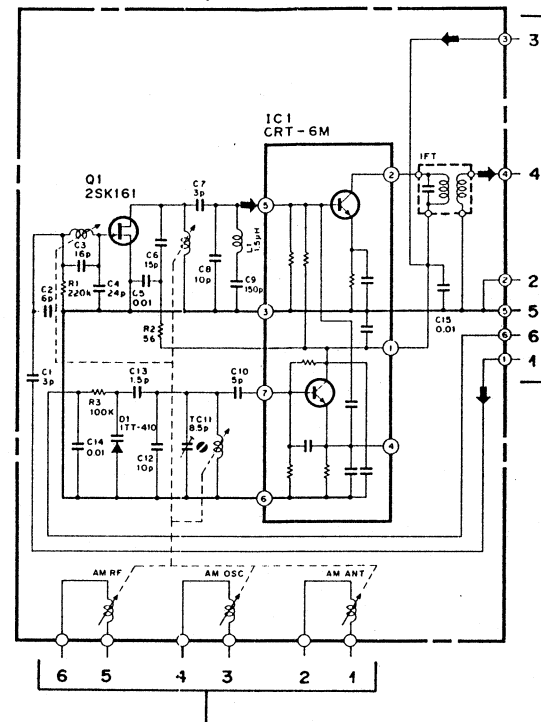
Q453 IC51  
T51 TC202

Q52  
Q51

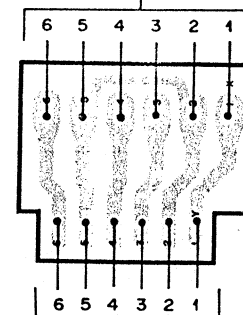
T202



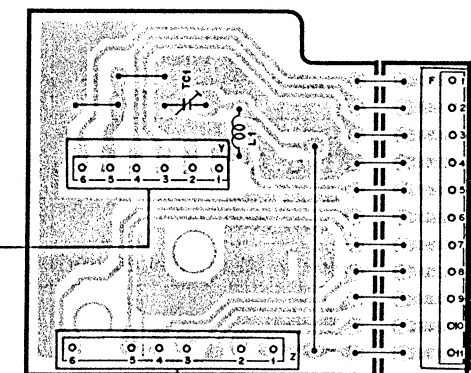
# FRONT END (CWB 1015)



## P.C. BOARD

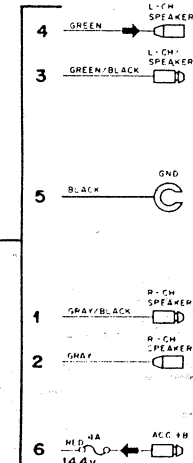
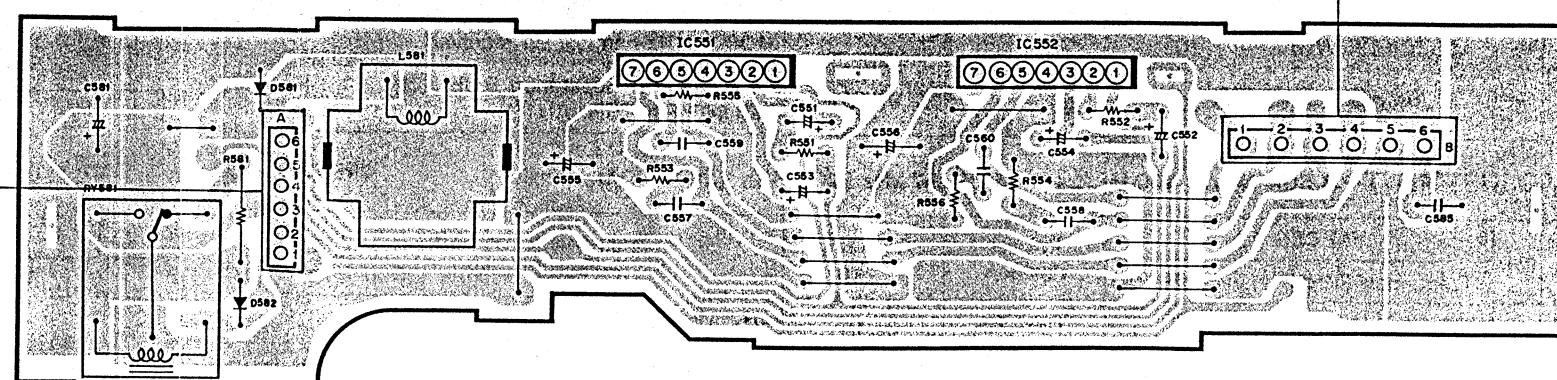


## TRIMMER UNIT



	1	2	3	4	5	6
IC552, IC551	3.1V	3.1V	3.1V	0V	6.2V	6.2V

## AMP UNIT



A

B

C

D

4

5

6

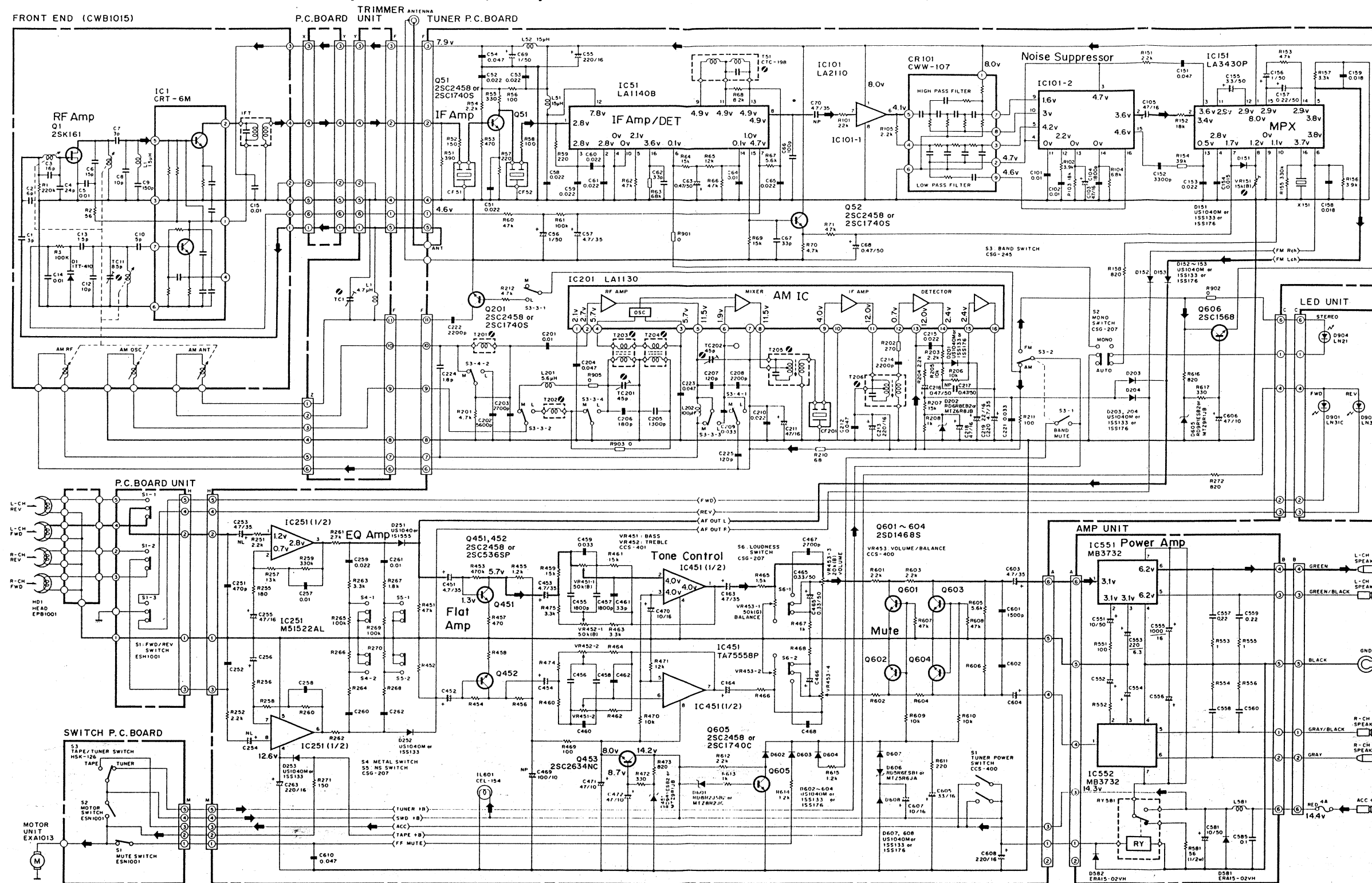
7

8

9



# 8. SCHEMATIC CIRCUIT DIAGRAM (KPH-4130/EW)



## NOTE:

chip resistor  
chip capacitor

## SWITCHES

TUNER P.C. BOARD  
S1: TUNER POWER SWITCH ..... ON-OFF  
S2: MONO SWITCH ..... AUTO-MONO  
S3: BAND SWITCH  
S3-1: MUTE SWITCH ..... ON-OFF  
S3-2: FM SWITCH ..... FM-AM

S3-3: MW SWITCH ..... MW-LW  
S3-4: LW SWITCH ..... LW-MW  
S4: METAL SWITCH ..... ON-OFF  
S5: NS SWITCH ..... ON-OFF  
S6: LOUDNESS SWITCH ..... ON-OFF

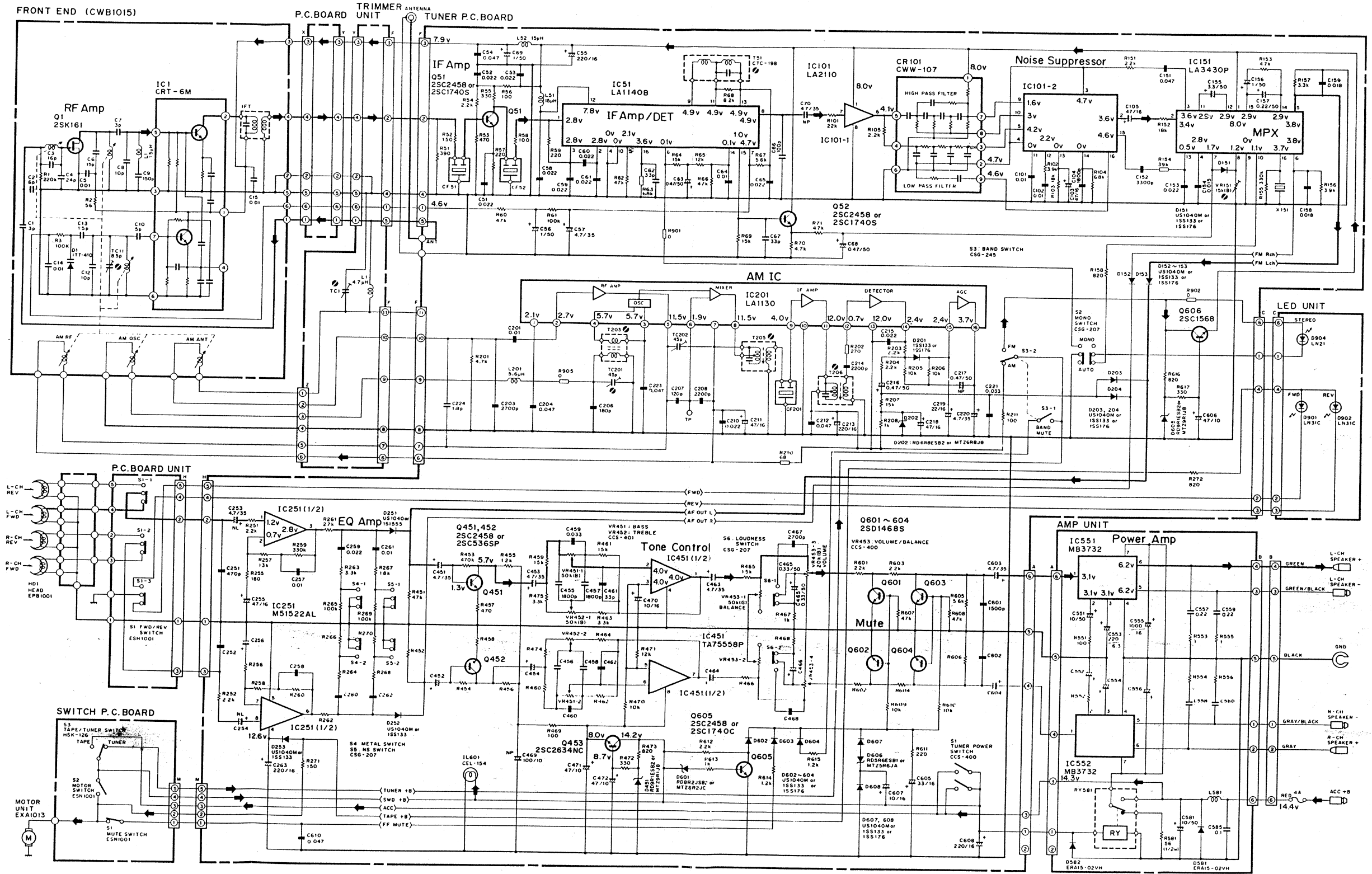
## SWITCH P.C. BOARD

S1: MUTE SWITCH ..... ON-OFF  
S2: MOTOR SWITCH ..... ON-OFF  
S3: TAPE/TUNER SWITCH ..... TAPE-TUNER

The underlined indicates the switch position.

Fig. 19

# 9. SCHEMATIC CIRCUIT DIAGRAM (KPH-4120/EW,ES)



NOTE:  
chip resistor  
chip capacitor

SWITCHES  
SWITCH P.C. BOARD  
S1: MUTE SWITCH  
S2: MOTOR SWITCH  
S3: TAPE/TUNER SWITCH

TUNER P.C. BOARD  
S1: TUNER POWER SWITCH  
S2: MONO SWITCH  
S3: BAND SWITCH  
S3-1: MUTE SWITCH  
S3-2: FM SWITCH  
S4: METAL SWITCH  
S5: NS SWITCH  
S6: LOUDNESS SWITCH

The underlined indicates the switch position.

## 6

IC,Q	IC25I	IC15I	IC10I	Q45I	Q452	IC20I	Q453	IC5I	Q52	Q5I	Q605	IC45I	Q604	Q606	Q602	Q603	Q60I
ADJ	VRI5I					T206 T205	T203	TC20I	T5I	TC202							

[illegible]

**B**

Diagram B shows a schematic of a motor unit. At the top left is a control panel with a meter labeled 'M' and five indicator lights numbered 1 through 5. Below the panel are three switches: S1 MUTE SWITCH, S2 MOTOR SWITCH, and S3 TAPE/TUNER SWITCH. The motor unit is labeled 'MOTOR UNIT' and 'M'. A 'B' is written to the left of the diagram.

The diagram shows the HD1 Head EPB1001 with four channels connected to a multi-pin connector. The channels are labeled on the left: L-CH REV, L-CH FWD, R-CH REV, and R-CH FWD. Each channel is represented by a circular symbol with internal wiring. The connector pins are numbered 1 through 5 on the right. Pin 1 is connected to the bottom of all four channel symbols. Pin 2 is connected to the top of the R-CH REV and R-CH FWD symbols. Pin 3 is connected to the top of the L-CH REV and L-CH FWD symbols. Pin 4 is connected to the top of the L-CH REV and L-CH FWD symbols. Pin 5 is connected to the top of the L-CH REV and L-CH FWD symbols. A dashed line connects pins 4 and 5.

LED UNIT

[illegible]

D



4

5

6

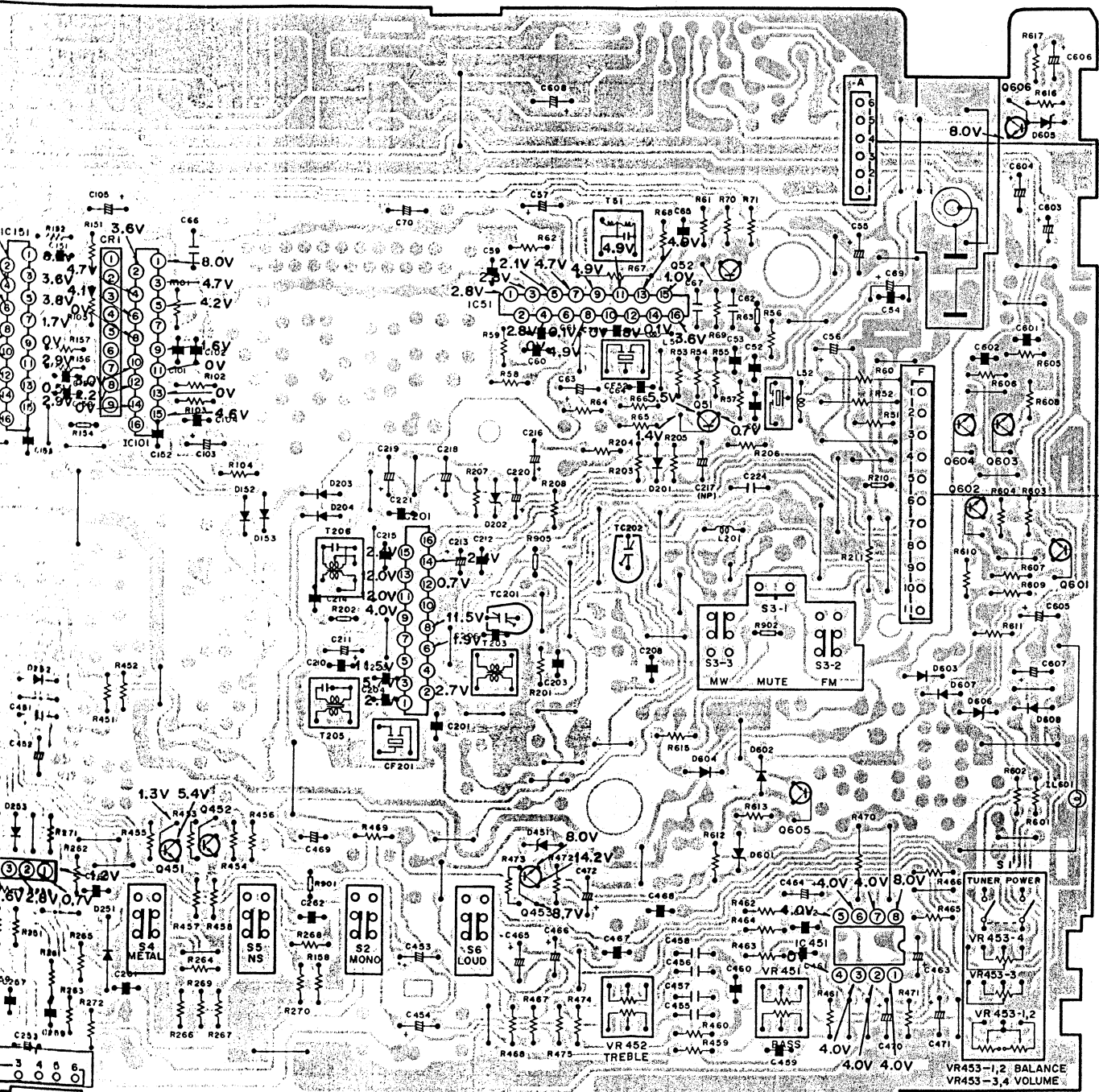
7

8

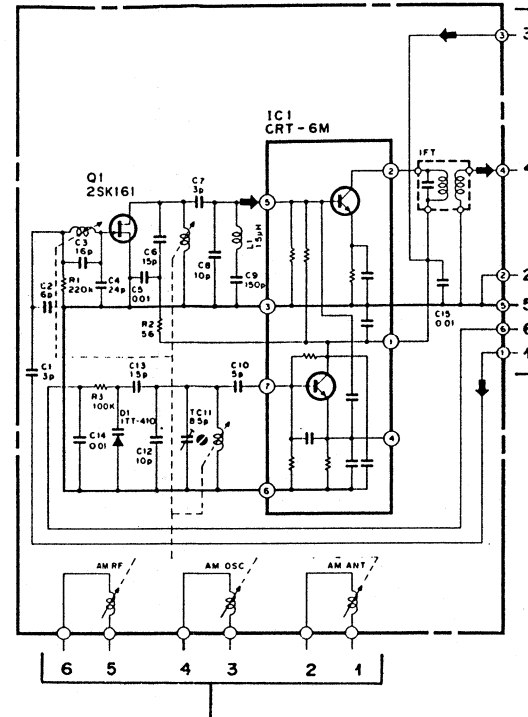
KPH-4130/KPH-4120/KPH-4120SDK

ARD

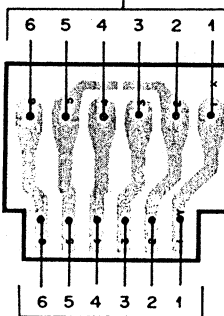
IC101 Q451 Q452 T206 T205 IC201 T203 TC201 T51 TC202 Q453 IC51 Q52 Q51 Q605 IC451 Q604 Q606 Q602 Q603 Q601



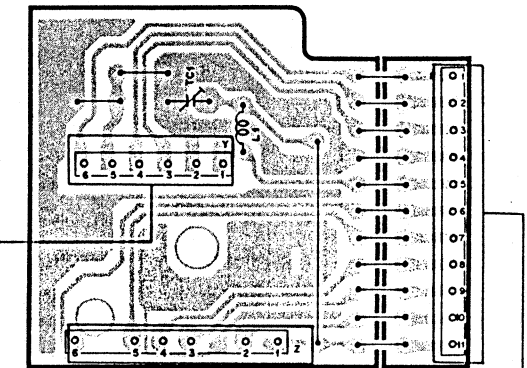
## FRONT END (CWB 1015)



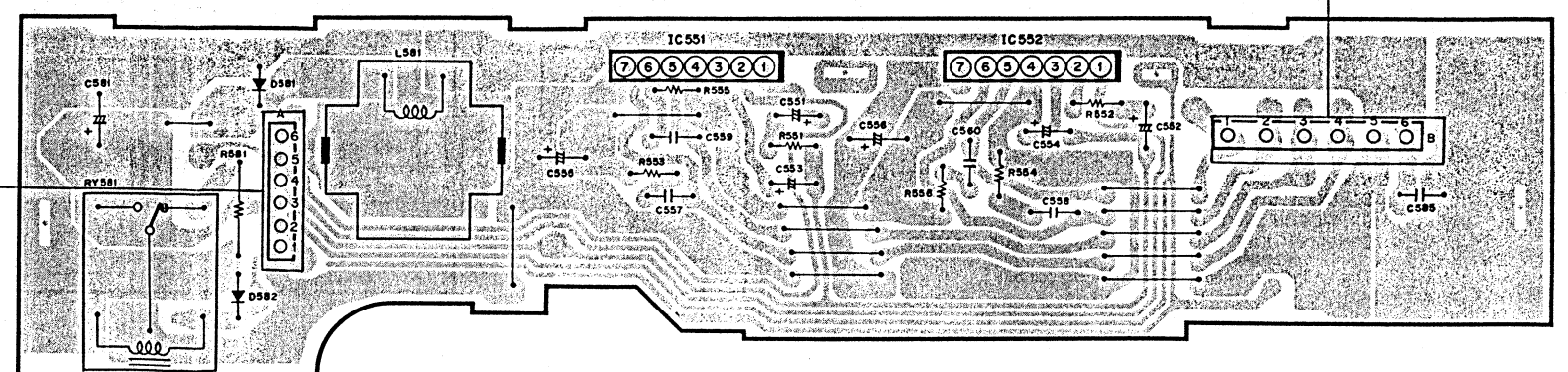
## P.C. BOARD



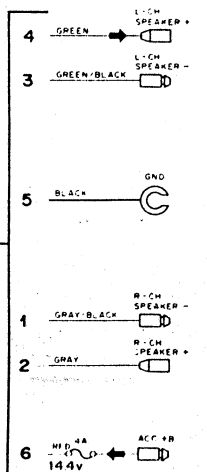
## TRIMMER UNIT



## AMP UNIT

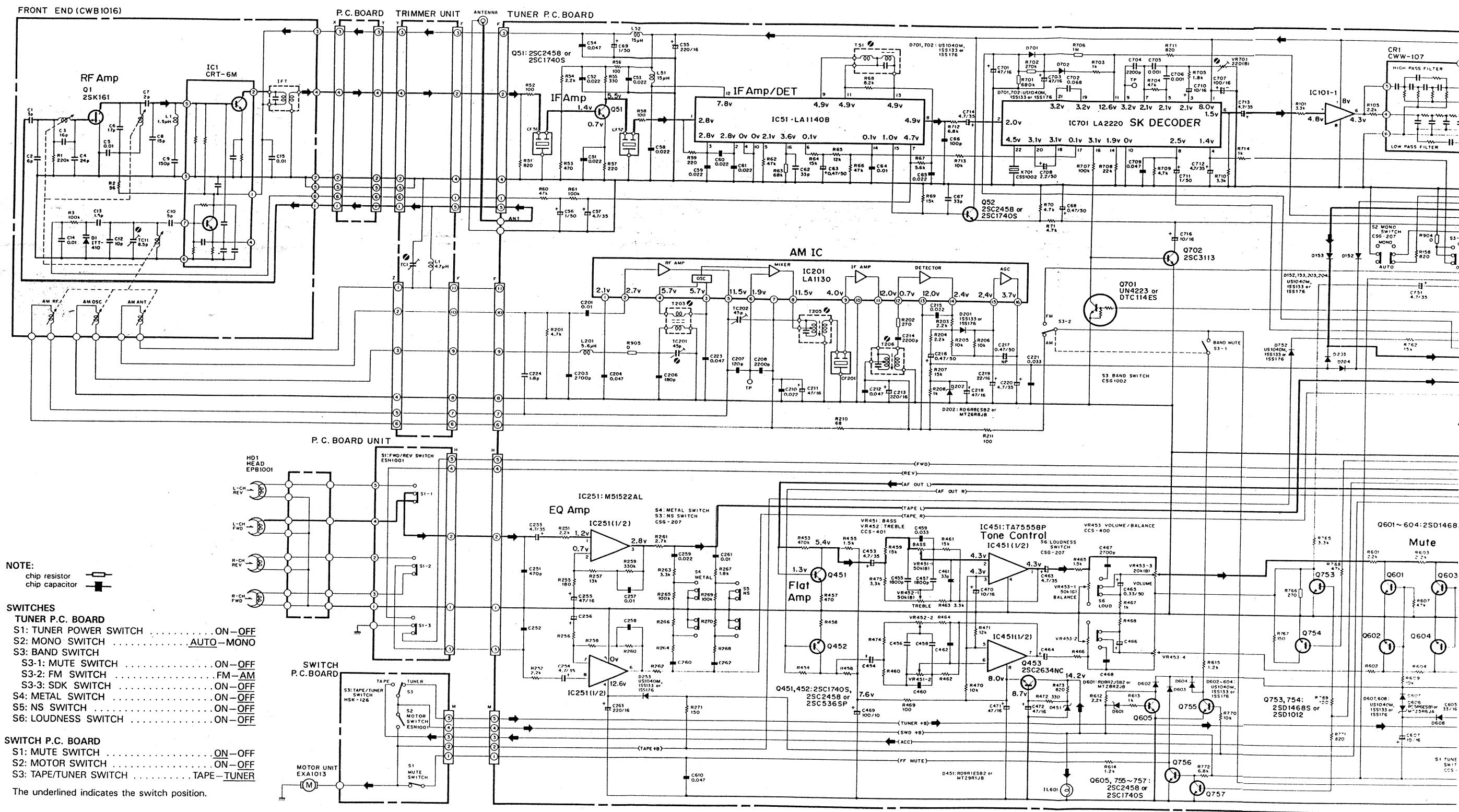


	1	2	3	4	5	6
IC552, IC551	3.1V	3.1V	3.1V	0V	6.2V	6.2V





# 11. SCHEMATIC CIRCUIT DIAGRAM (KPH-4120SDK/WG)



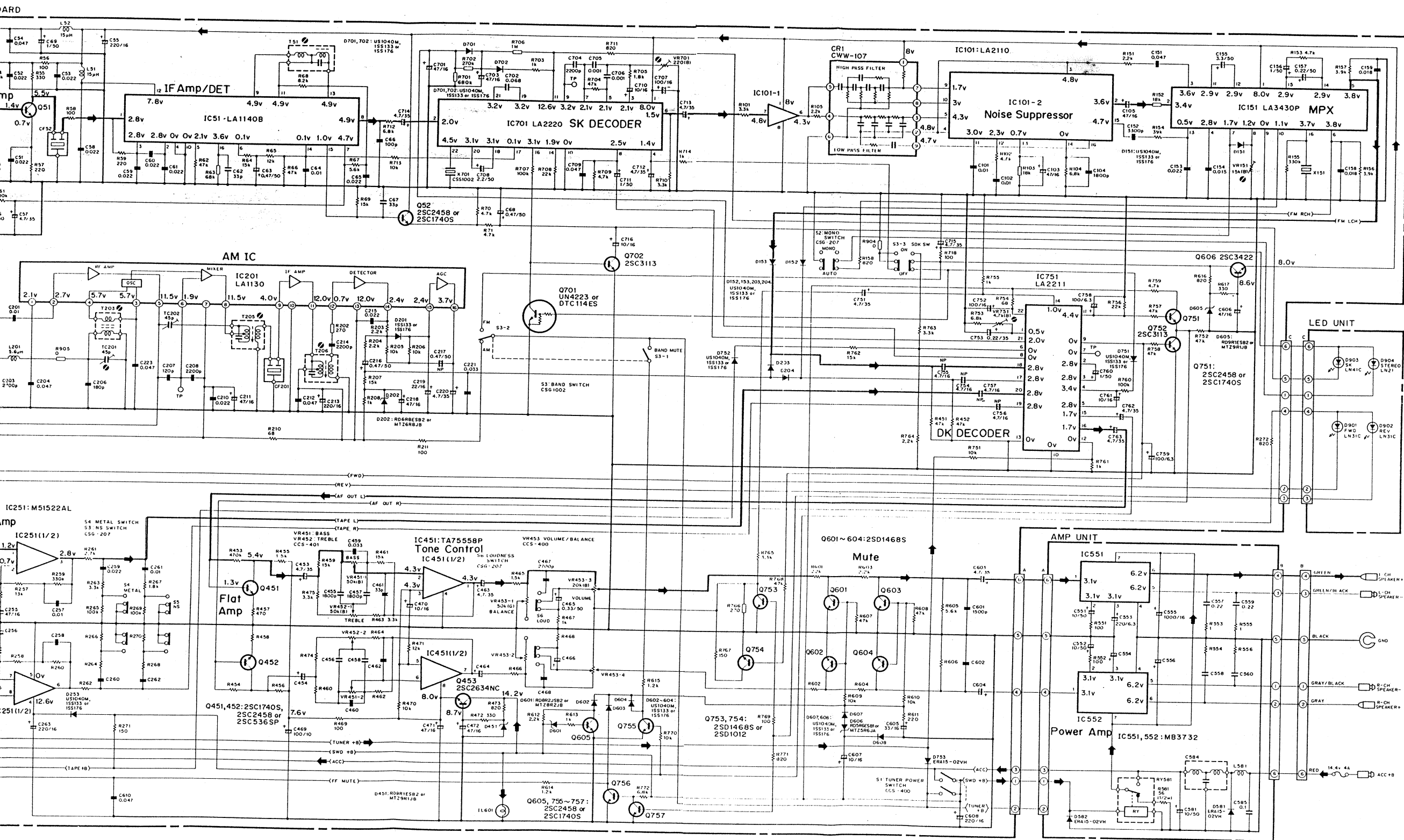


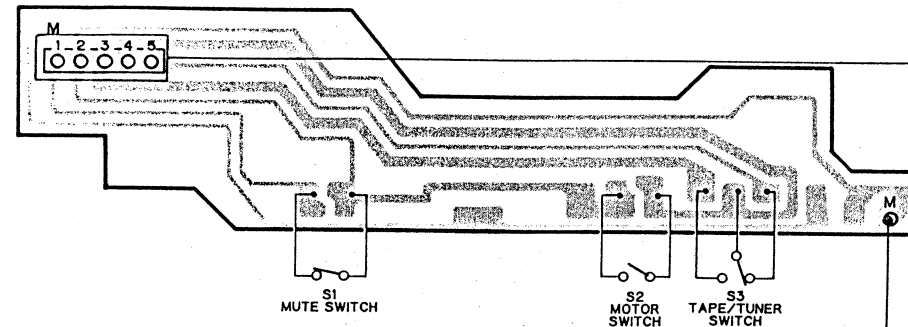
Fig. 22

# 12 CONNECTION DIAGRAM (KPH-4120SDK/WG)

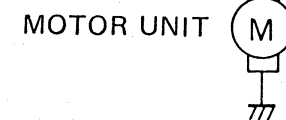
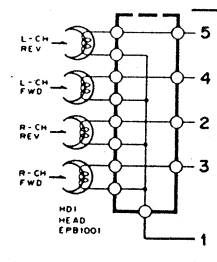
## TUNER P.C. BOARD

IC101  
Q702  
IC251 IC751 Q752 Q751 Q451 Q452 Q701 IC701 IC201 Q453 IC51 Q755 Q51 Q52 Q757 Q605 IC451 Q753 Q602 Q603 Q606 Q601  
ADJ VR751 VR151 T206 T205 VR701 TC201 T203 T51 TC202

## A SWITCH P.C. BOARD

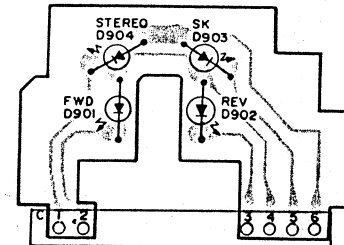


## B

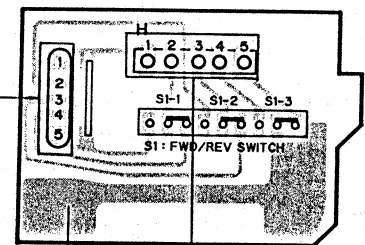


## C

### LED UNIT

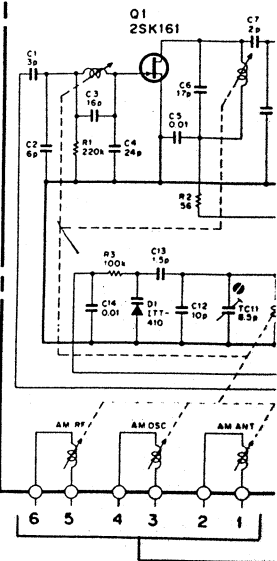


### P.C. BOARD UNIT



## D

### FRONT END (CWB1016)





4

5

6

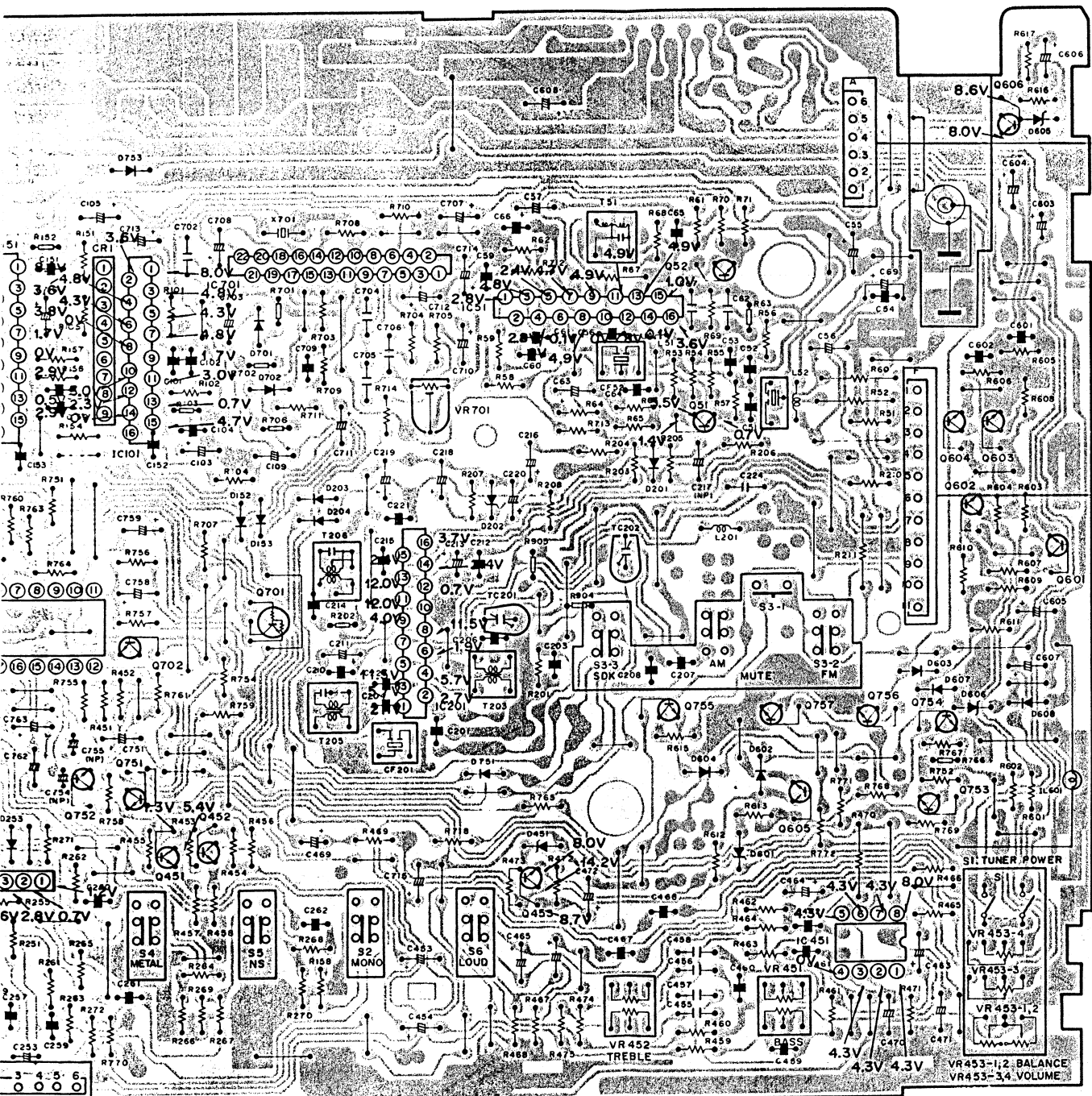
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8

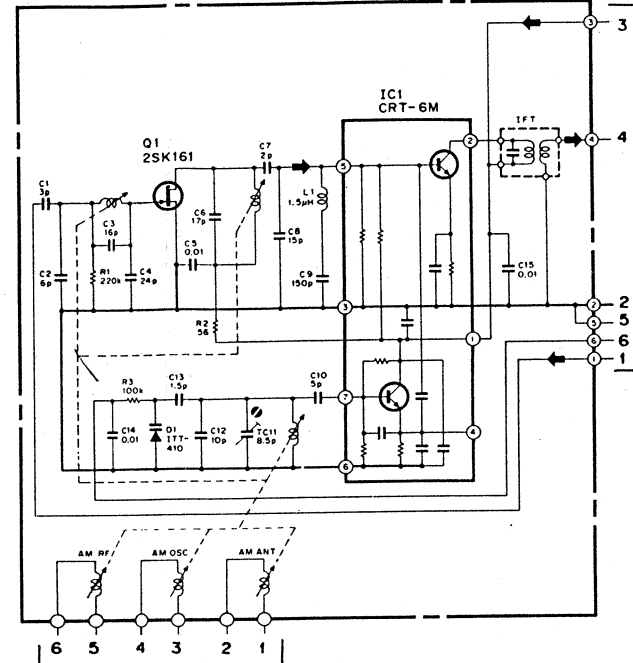
KPH-4130/KPH-4120/KPH-4120SDK

RD

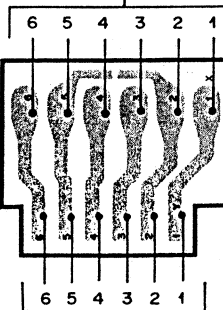
IC101 Q752 Q751 Q451 Q452 Q701 IC701 T206 T205 IC201 VR701 TC201 T203 Q453 IC51 Q755 Q51 Q52 Q757 Q605 IC451 Q753 Q602 Q603 Q606 Q601 Q756 Q754 Q604 T51 TC202



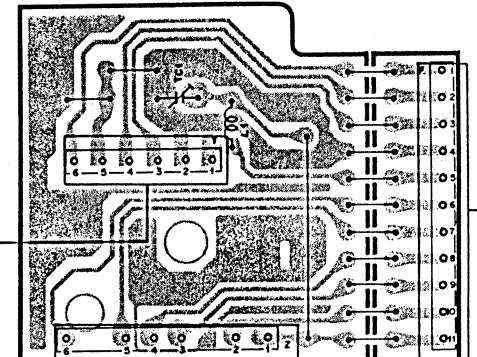
FRONT END (CWB1016)



P.C. BOARD



TRIMMER UNIT



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
IC751	0.5V	2.8V	2.8V	3.4V	2.8V	0V	0V	0V	0V	0V	4.4V	0V	0V	1.0V	1.7V	1.7V	2.8V	2.8V	2.8V	2.8V	2.0V	
IC701	8.0V	2.0V	2.1V	1.4V	2.1V	1.5V	2.1V	2.5V	3.2V		12.6V			1.9V		3.1V	0.1V	3.1V	3.2V	3.1V	3.2V	4.5V

	1	2	3	4	5	6
IC552, IC551	3.1V	3.1V	3.1V	0V	6.2V	6.2V

AMP UNIT

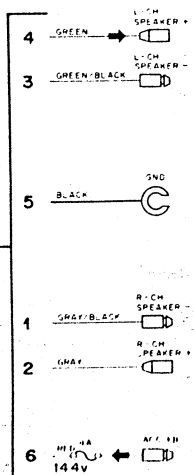
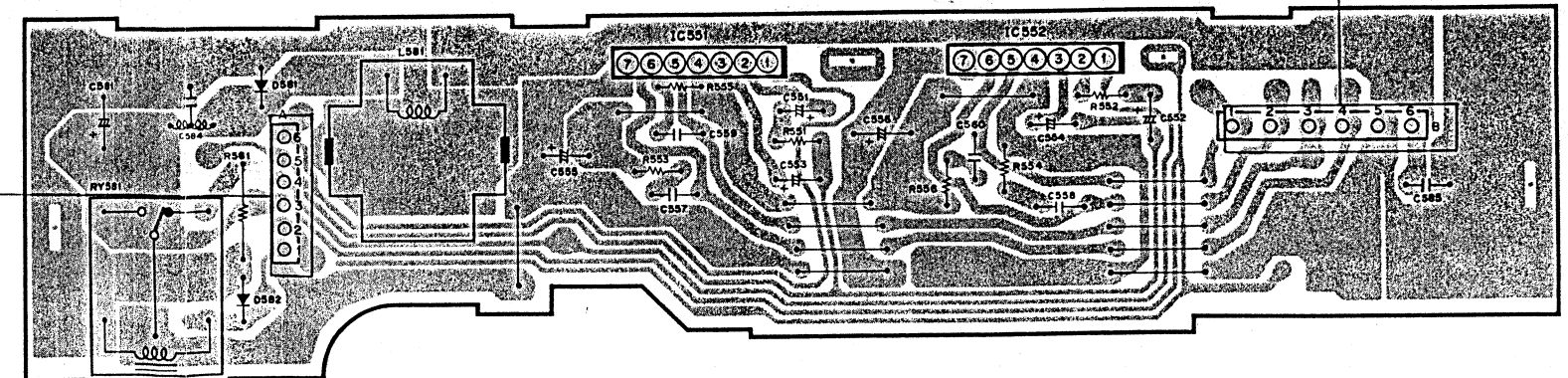


Fig. 23



Fig. 24

## • Parts List

### NOTE:

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.
- ★ ★: **GENERALLY MOVES FASTER THAN ★.**
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.*
- Parts whose parts numbers are omitted are subject to being not supplied.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1.	BMZ30P050FMC	Screw	★	29.	CAA1070	Knob (BASS, TREBLE)
	2.	CNB1127	Case		30.		Scale (KPH-4130/EW)
	3.	CNW-101	Coupler B				Scale (KPH-4120/EW,ES)
	4.	CNW-100	Coupler A				Scale (KPH-4120SDK/WG)
	5.		Holder Unit		31.		Cap (KPH-4120/EW,ES)
	6.	CNV1320	Guide		32.	CXA1514	Grille Assy (KPH-4130/EW)
★ ★	7.	CEL-154	Lamp			CXA1512	Grille Assy (KPH-4120/EW,ES)
	8.	CBA-067	Nut			CXA1516	Grille Assy (KPH-4120SDK/WG)
	9.	CBA-066	Nut		33.	BMZ26P050FMC	Screw
★	10.	CAC-908	Button (BAND)	●	34.	EXK1140	Cassette Mechanism Assy
★	11.	CAC-908	Button (BAND) (KPH-4130/EW)		35.	CWB1015	Front End (KPH-4130/EW, KEH-4120/EW,ES)
★		CAC-909	Button (BAND) (KPH-4120SDK/WG)			CWB1016	Front End (KPH-4120SDK/WG)
	12.	CAF-071	Pointer		36.		Lever
★	13.	CAC-913	Button (NS, METAL, MONO, LOUD)		37.		Lever (KPH-4130/EW, KPH-4120SDK/WG)
	14.		Lever				Antenna Jack
	15.	CBH1085	Spring		38.	CKX1002	Connector
★	16.	CAC1293	Button		39.	HKS-176	Connector
	17.		Holder		40.	CDE1417	Cord Assy
	18.	BMZ26P030FMC	Screw		41.		Plug
	19.		Lens		42.	CKS-463	Plug
	20.	CBH-875	Spring		43.		Heat Sink
	21.	CAT1048	Door		44.	BMZ26P100FMC	Screw
	22.		Sheet (KPH-4130/EW, KPH-4120/EW,ES)		45.		Holder
			Sheet (KPH-4120SDK/WG)		46.		Insulator
	23.		Cushion		47.		Connector
	24.		Grille (KPH-4130/EW)		48.		Connector
			Grille (KPH-4120/EW,ES)	●	49.		Chassis Unit
			Grille (KPH-4120SDK/WG)		50.	CWM1225	Tuner Amp Assy (KPH-4130/EW)
	25.	PMZ30P050FMC	Screw	●		CWM1224	Tuner Amp Assy (KPH-4120/EW,ES)
★	26.	CAA1061	Knob (TUNING)	●		CWM1226	Tuner Amp Assy (KPH-4120SDK/WG)
★	27.	CAA1062	Knob (BALANCE)				Insulator
★	28.	CAA1063	Knob (VOLUME)		51.		
				★	52.	CAC1353	Button (<<)
				★	53.	CAC1352	Button (>>)

# 14. CASSETTE MECHANISM ASSY

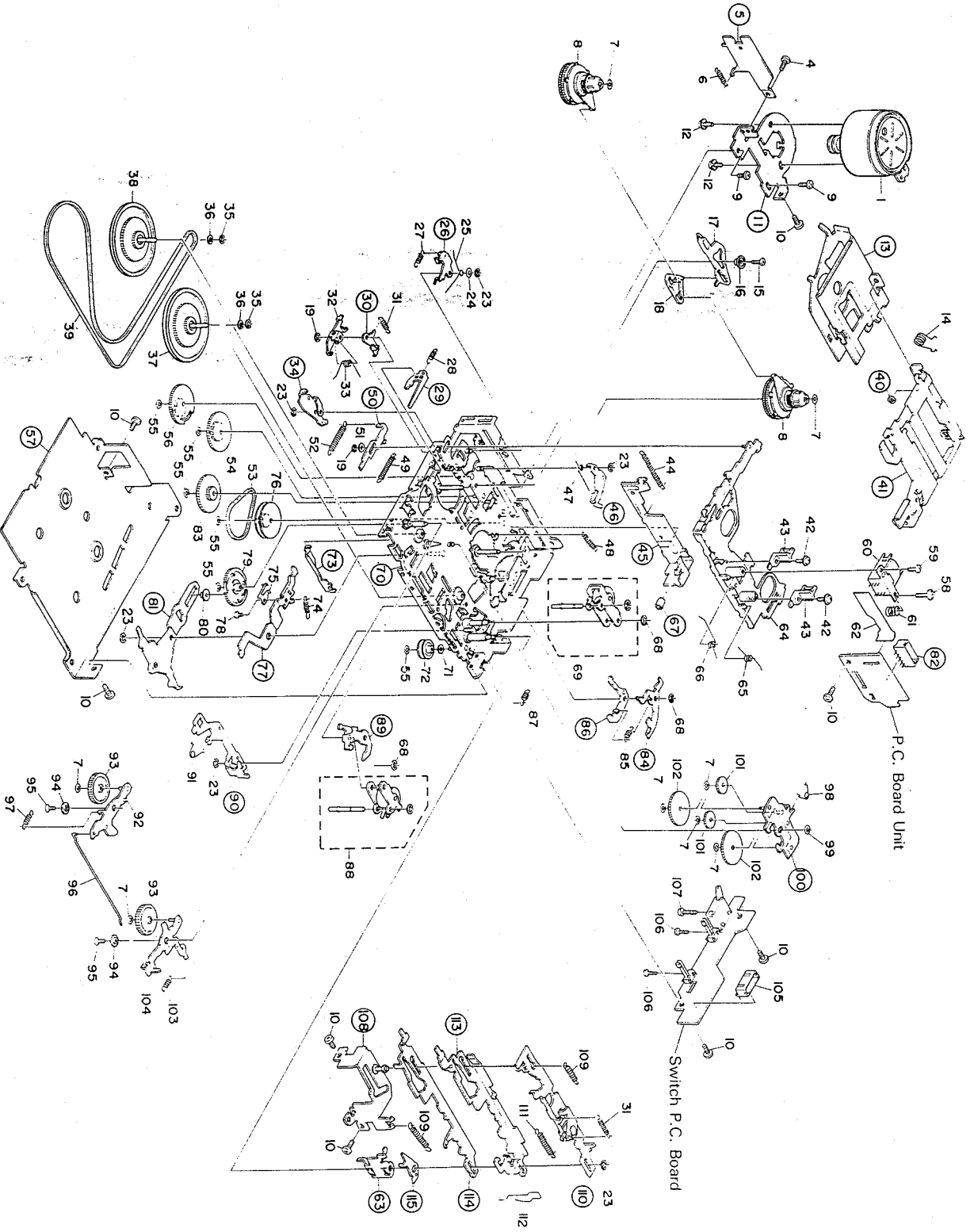


Fig. 25

## • Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
A	★★	1. EXA1013	Motor Assy	★★	59.	BMZ20P040FMC	Screw
		2,3. VACANT			60.	EPB1001	Head
		4. BMZ20P025FMC	Screw		61.	CBH-198	Spring
		5.	Holder		62.	ENP1003	P.C. Board
		6. EBH1011	Spring		63.		Arm
		7. CBF-166	Washer		64.	EXA1004	Head Base Unit
	★★	8. EXA1012	Reel Unit		65.	EBH1004	Spring
		9. BMZ23P030FMC	Screw		66.	EBH1003	Spring
		10. BSZ23P040FMC	Screw		67.		Cushion
		11.	Bracket		68.	YE20FUC	Washer
B		12. PMS26P025FUC	Screw		69.	EXA1002	Roller Unit
		13.	Cassette Holder		70.		Chassis Unit
		14. EBH1019	Spring		71.	EBF1004	Washer
		15. EBA1002	Screw		72.	ENV1009	Pulley
		16. ELA1019	Collar		73.		Lever
		17. ENV1022	Arm		74.	EBH1025	Spring
		18. ENV1021	Arm		75.	EBL1001	Spring
		19. YE12FUC	Washer		76.	ENV1010	Pulley
	20-22.	VACANT			77.		Arm
		23. YE15FUC	Washer		78.	HBA-147	Screw
C		24. CBF-165	Washer		79.	ENV1015	Gear
		25. EBH1035	Spring		80.	ELA1018	Collar
		26.	Arm		81.		Arm
		27. EBH1037	Spring		82.		Plug
		28. EBH1039	Spring		83.	ENV1011	Gear
		29.	Arm		84.		Arm
		30.	Arm		85.	EBH1024	Spring
		31. EBH1010	Spring		86.		Ratchet
		32.	Arm		87.	EBH1018	Spring
		33. EBH1008	Spring	★★	88.	EXA1003	Roller Unit
D		34.	Arm Unit		89.		Arm
		35. CBG1001	Washer		90.		Lever
		36. HBF-179	Washer		91.	EBH1013	Spring
		37. ENV1019	Flywheel(N)		92.	EXA1006	Arm Unit
		38. ENV1020	Flywheel(R)		93.	EXA1020	Gear Unit
	★★	39. CNT-091	Belt		94.	ELA1032	Collar
		40.	Roller		95.	HBA-212	Screw
		41.	Cassette Frame Unit		96.	EBH1007	Spring
		42. PMS20P040FMC	Screw		97.	EBH1006	Spring
		43. ENV1016	Tape Guide		98.	EBH1014	Spring
		44. EBH1020	Spring		99.	CBF1001	Washer
		45.	Lever		100.		Arm Unit
		46.	Arm		101.	ENV1018	Gear
		47. EBH1040	Spring		102.	ENV1017	Gear
		48. EBH1041	Spring		103.	EBH1022	Spring
		49. EBH1021	Spring		104.	EXA1005	Arm Unit
		50.	Lever		105.		Plug
		51. EBE1001	Washer		106.	EBA1006	Screw
		52. EBH1009	Spring		107.	BMZ20P070FUC	Screw
	★★	53. ENT1002	Belt		108.		Bracket Unit
		54. ENV1012	Gear		109.	EBH1016	Spring
		55. CBF-135	Washer		110.		Lever Unit
		56. ENV1014	Gear		111.	EBH1017	Spring
		57.	Cover		112.	EBH1005	Spring
		58. EBA1007	Screw		113.		Lever
					114.		Lever
					115.		Arm



# KPH-4130/KPH-4120/KPH-4120SDK

## 15. ELECTRICAL PARTS LIST

### NOTE:

When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω 56 × 10<sup>1</sup> 561 ..... RD1/4PS 561J  
 47kΩ 47 × 10<sup>3</sup> 473 ..... RD1/4PS 473J  
 0.5Ω 0R5 ..... RN2H 0R5K  
 1Ω 010 ..... RS1P 010K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).  
 5.62kΩ 562 × 10<sup>1</sup> ..... RN1/4SR 5621F

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.
- ★ ★: GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/8S□□□J, RS1/10S□□□J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

### Tuner P.C. Board (KPH-4130/EW)

#### MISCELLANEOUS

Mark	Symbol & Description	Part No.	Mark	Description	No.
★ ★	IC51	LA1140B	★ D606		MTZ9R1JB
★ ★	IC101	LA2110	L51, 52	Inductor	RD5R6ESB1 or
★ ★	IC151	LA3430P	L201	Ferri-Inductor	MTZ5R6JA
★ ★	IC201	LA1130	L202	Ferri-Inductor	LAU150K
★ ★	IC251	M51522AL	T51	Coil	LAU5R6K
★ ★	IC451	TA75558P	T201	Coil	LAU101K
★ ★	Q51, 52, 201, 605	2SC2458 or	T202	Coil	CTC1008
		2SC1740S	T203	Coil	CTB-147
★ ★	Q451, 452	2SC2458 or	T204	Coil	CTB-148
		2SC536SP	T205	Coil	CTB-146
★ ★	Q453	2SC2634NC	T206	IFT	CTB-145
★ ★	Q601 - 604	2SD1468S	CF51, 52	Ceramic Filter	CTE-150
★ ★	Q606	2SC1568			CTE-149
★	D151 - 153, 201, 203, 204, 252, 253, 602 - 604, 607, 608	US1040M or	CF201	Filter	CTF-152
		1SS133 or			CTF-217
		1SS176	CR101		CTF-100
★	D202	RD6R8ESB2 or	TC201, 202	Trimmer	CTF-240
		MTZ6R8JB	★ ★ VR151	Semi-fixed, 15 kΩ(B)	CWW-107
★	D251	US1040 or	★ ★ VR451, 452	Volume, 50 kΩ(B), (BASS, TREBLE)	CCG-087
		1S1555	★ ★ VR453/S1	Volume/Switch, 20 kΩ(B), 50 kΩ(G), (VOLUME, BALANCE/	CCP-246
★	D451	RD9R1ESB2 or			CCS-401
		MTZ9R1JB			CCS-400
★	D601	RD8R2JSB2 or			
		MTZ8R2JC			
★	D605	RD9R1ESB2 or			
				TUNER POWER)	

Mark	Symbol & Description	Part No.
★★	S2, 4—6 Switch (MONO, METAL, NS, LOUD)	CSG-207
★★	S3 Switch (BAND)	CSG-245
★★	IL601 Lamp, 14 V 40 mA	CEL-154
	X151 Ceramic, Resonator	CSS1019

## RESISTORS

Mark	Symbol & Description	Part No.
	R52, 60, 67, 211, 470	RD1/4PM□□□J
	R63, 154, 202, 210, 901—903, 905	RS1/8S□□□J
	Other Resistors	RD1/4PS□□□JL

## CAPACITORS

Mark	Symbol & Description	Part No.
	C51—53, 58—61, 65	CKSYB223K50
	C54	CKSYF473Z50
	C55	CEA221M16L2
	C56, 69	CEA010M50LS2
	C57	CEA4R7M35L2
	C62, 67	CCPSL330J50L
	C63, 68	CEAR47M50LS2
	C64	CKSYB103K50
	C66	CKPYB101K50L
	C70	CEA4R7M35NPLL
	C101, 102	CKSYB103K50
	C103	CEA470M16LS
	C104	CKSYB182K50
	C105	CEA470M16L2
	C151	CKSYF473Z50
	C152	CKSYB333K50
	C153	CKSYB223K50
	C154	CKSYB153K
	C155	CEA3R3M50LS
	C156	CEA010M50LS2
	C157	CSZAR22M50
	C158, 159	CKSYB183K50
	C201	CKSYB103K50
	C202	CKSYB562K50
	C203	CKSYB272K50
	C204, 212, 223	CKSYF473Z50
	C205	CQPA132J100
	C206	CCSSH181J50
	C207	CCSPH121J50
	C208, 214	CKSYB222J50
	C209, 221	CKSYB333K25
	C210, 215	CKSYB223K50
	C211, 218	CEA470M16LS
	C213	CEA221M16L2
	C216	CEAR47M50LS2
	C217 0.47 $\mu$ F/50 V (NP)	CCH-108
	C219	CEA220M16LS
	C220	CEA4R7M35LS
	C222	CKSYB222J50
	C224	CCPCH1R8M50L

Mark	Symbol & Description	Part No.
	C225	CCSSL121J50
	C251, 252	CKSYB471K50
	C253, 254	CEANL4R7M35LL
	C255, 256	CEA470M16LS
	C257, 258	CKSYB103K50
	C259, 260	CKSYB223K50
	C261, 262	CKSYB103K50
	C263	CEA221M16L2
	C451—454, 463, 464	CEA4R7M35LS
	C455—458	CKPYX182M16L
	C459, 460	CKSYB333K25
	C461, 462	CCSSL330J50
	C465, 466	CEAR33M50LS2
	C467, 468	CKSYB272K50
	C469	CEA101M10L2
	C470	CEA100M16LS2
	C471, 472	CEA470M16LS
	C601, 602	CKSYB152K50
	C603, 604	CEA4R7M35LS
	C605	CEA330M16LS
	C606	CEA470M16LS
	C607	CEA100M16LS2
	C608	CEA221M16L2
	C610	CKSYF473Z50

## Tuner P.C. Board (KPH-4120/EW,ES)

### MISCELLANEOUS

Mark	Symbol & Description	Part No.
★★	IC51	LA1140B
★★	IC101	LA2110
★★	IC151	LA3430P
★★	IC201	LA1130
★★	IC251	M51522AL
★★	IC451	TA75558P
★★	Q51, 52, 605	2SC2458 or 2SC1740S
★★	Q451, 452	2SC2458 2SC536SP
★★	Q453	2SC2634NC
★★	Q601—604	2SD1468S
★★	Q606	2SC1568
★	D151—153, 201, 203, 204, 252, 253, 602—604, 607, 608	US1040M or 1S133 or
★	D202	1S176 RD6R8ESB2 or MTZ6R8JB
★	D251	US1040 or 1S1555
★	D451	RD9R1ESB2 or MTZ9R1JB
★	D601	RD8R2JSB2 or MTZ8R2JC
★	D605	RD9R1ESB2 or MTZ9R1JB



Mark	Symbol & Description	Part No.
★	D606	RD5R6ESB1 or MTZ5R6JA
	L51, 52 Inductor	LAU150K
	L201 Ferri-Inductor	LAU5R6K
	T51 Coil	CTC1008
	T203 Coil	CTB-146
	T205 Coil	CTE-150
	T206 IFT	CTE-149
	CF51, 52 Ceramic Filter	CTF-217 or CTF-152
	CF201 Filter	CTF-100 or CTF-240
	CR101	CWW-107
	TC201, 202 Trimmer	CCG-087
★★	VR151 Semi-fixed, 15 kΩ(B)	CCP-246
★★	VR451, 452 Volume, 50 kΩ(B) (BASS, TREBLE)	CCS-401
★★	VR453/S1 Volume/Switch, 20 kΩ(B), 50 kΩ(G), (VOLUME, BALANCE/ TUNER POWER)	CCS-400
★★	S2, 4-6 Switch (MONO, METAL, NS, LOUD)	CSG-207
★★	S3 Switch (BAND)	CSG-246
	X151 Ceramic Resonator	CSS1019
★★	IL601 Lamp, 14 V 40 mA	CEL-154

#### RESISTORS

Mark	Symbol & Description	Part No.
	R52, 60, 67, 211, 470	RD1/4PM□□□J
	R63, 154, 202, 210, 901, 905	RS1/8S□□□J
	Other Resistors	RD1/4PS□□□JL

#### CAPACITORS

Mark	Symbol & Description	Part No.
	C51-53, 58-61, 65	CKSYB223K50
	C54	CKSYF473Z50
	C55	CEA221M16L2
	C56, 69	CEA010M50LS2
	C57	CEA4R7M35L2
	C62, 67	CCPSL330J50L
	C63, 68	CEAR47M50LS2
	C64	CKSYB103K50
	C66	CKPYB101K50L
	C70	CEA4R7M35NPLL
	C101, 102, 257, 258, 261, 262	CKSYB103K50
	C103, 211, 218, 255, 256, 471, 472	CEA470M16LS
	C104	CKSYB182K50
	C105	CEA470M16L2

Mark	Symbol & Description	Part No.
	C151	CKSYF473Z50
	C152	CKSYB332K50
	C153	CKSYB223K50
	C154	CKSYB153K50
	C155	CEA3R3M50LS
	C156	CEA010M50LS2
	C157	CSZAR22M50
	C158, 159	CKSYB183K50
	C201	CKSYB103K50
	C203	CKSYB272K50
	C204, 212, 223	CKSYF473Z50
	C206	CCSSH181J
	C207	CCSPH121J
	C208, 214	CKSYB222K50
	C210, 215, 259, 260	CKSYB223K50
	C213	CEA221M16LS
	C216	CEAR47M50LS2
	C217, 0.47 μF/50 V (NP)	CCH-108
	C219	CEA220M16LS
	C220	CEA4R7M35LS
	C221	CKSYB333K25
	C224	CCPCH1R8M50
	C251, 252	CKSYB471K50
	C253, 254	CEANL4R7M35LL
	C255, 256	CEA470M16LS
	C263	CEA221M16L2
	C451-454, 463, 464	CEA4R7M35LS
	C455-458	CKPYX182M16
	C459, 460	CKSYB333K25
	C461, 462	CCSSL330J50
	C465, 466	CEAR33M50LS2
	C467, 468	CKSYB272K50
	C469	CEA101M10L2
	C470	CEA100M16LS2
	C601, 602	CKSYB152K50
	C603, 604	CEA4R7M35LS
	C605	CEA470M16L2
	C607	CEA100M16LS2
	C608	CEA221M16L2
	C610	CKSYF473Z50

#### Tuner P.C. Board (KPH-4120SDK/WG)

##### MISCELLANEOUS

Mark	Symbol & Description	Part No.
★★	IC51	LA1140B
★★	IC101	LA2110
★★	IC151	LA3430P
★★	IC201	LA1130
★★	IC251	M51522AL
★★	IC451	TA75558P
★★	IC701	LA2220
★★	IC751	LA2211
★★	Q51, 52, 605, 751, 755-757	2SC2458 or 2SC1740S

Mark	Symbol & Description	Part No.
★★	Q451	2SC2458 or 2SC536SP
★★	Q453	2SC2634NC
★★	Q601 – 604	2SD1468S
★★	Q606	2SC3422
★★	Q701	UN4223 or DTC114ES
★★	Q702, 752	2SC3113
★★	Q753, 754	2SD1468S or 2SD1012
★	D151 – 153, 201, 203, 204, 253, 602 – 604, 607, 608, 701, 702, 751, 752	US1040M or 1SS133 or 1SS176
★	D202	RD6R8ESB2 or MTZ6R8JB
★	D451, 605	RD9R1ESB2 or MTZ9R1JB
★	D601	RD8R2JSB2 or MTZ8R2JC
★	D606	RD5R6ESB1 or MTZ5R6JA
★	D753	ERA15-02VH
L51, 52	Inductor	LAU150K
L201	Ferri-Inductor	LAU5R6K
T51	Coil	CTC1008
T203	Coil	CTB-146
T205	Coil	CTE-150
T206	IFT	CTE-149
CF51	Ceramic Filter	CTF-217 or CTF-152
CF201	Filter	CTF-100 or CTF-240
CR101		CWW-107
TC201, 202	Trimmer	CCG-087
★★	VR151	Semi-fixed, 15 k $\Omega$ CCP-246
★★	VR451, 452	Volume, 50 k $\Omega$ (B), (BASS, TREBLE) CCS-401
★★	VR453/S1	Volume/Switch, 20 k $\Omega$ (B), 50 k $\Omega$ (G), (VOLUME, BALANCE/ TUNER POWER) CCS-400
★★	VR701	Semi-fixed, 220 $\Omega$ (B) CCP-235
★★	VR751	Semi-fixed, 4.7 k $\Omega$ (B) CCP-243
★★	S2, 4 – 6	Switch (MONO, METAL, NS, LOUD) CSG-207
★★	S3	Switch (BAND) CSG1002
X151	Ceramic Resonator	CSS1019
X701	Ceramic Resonator	CSS1002
★★	IL601	Lamp, 14 V 40 mA CEL-154

## RESISTORS

Mark	Symbol & Description	Part No.
	R52, 60, 67, 211, 470	RD1/4PM□□□J
	R63, 103, 152, 202, 701, 702, 706, 766, 904, 905	RS1/8S□□□J
	Other Resistors	RD1/4PS□□□JL

## CAPACITORS

Mark	Symbol & Description	Part No.
	C51 – 53, 58 – 61, 65, 210, 215	CKSYB223K50
	C54	CKSYF473Z50
	C55, 213	CEA221M16L2
	C56, 69	CEA010M50LS2
	C57	CEA4R7M35L2
	C62, 67	CCPSL330J50L
	C63, 68, 216	CEAR47M50LS2
	C64, 257, 258, 261, 262	CKSYB103K50
	C66	CCSSL101J50
	C101, 102	CKSYB103K50
	C103, 211, 218, 255, 256	CEA470M16LS
	C104	CKSYB182K50
	C105	CEA470M16L2
	C151, 204, 212, 223	CKSYF473Z50
	C152	CKSYB332K50
	C153, 259, 260	CKSYB223K50
	C154	CKSYB153K50
	C155	CEA3R3M50LS
	C156	CEA010M50LS2
	C157	CSZAR22M50
	C158, 159	CKSYB183K50
	C201	CKSYB103K50
	C203	CKSYB272K50
	C206	CCSSH181J50
	C207	CCSPH121J50
	C208, 214	CKSYB222K50
	C217	0.47 $\mu$ F/50 V (NP) CCH-108
	C219	CEA220M16LS
	C220, 453, 454, 463, 464	CEA4R7M35LS
	C221	CKSYB333K25
	C224	CCPCH1R8M50L
	C251, 252	CKSYB471K50
	C253, 254	CEANL4R7M35LL
	C263	CEA221M16L2
	C455 – 458	CKPYX182M16L
	C459, 460	CKSYB333K25
	C461, 462	CCSSL330J50
	C465, 466	CEAR33M50LS2
	C467, 468	CKSYB272K50
	C469	CEA101M10L2
	C470, 710, 716	CEA100M16LS2
	C471, 472	CEA470M16LS
	C601, 602	CKSYB152K50
	C603, 604, 712 – 715, 751, 762, 763	CEA4R7M35LS
	C605	CEA330M16LS
	C607	CEA100M16LS2
	C608	CEA221M16L2
	C610	CKSYF473Z50
	C701, 703	CEA470M16LS
	C702	CQMA683J50LL
	C704	CQMA222J50LL
	C705, 706	CQMA102J50LL
	C707, 752	CEA101M16L2
	C708	CEA2R2M50LS2

# PH-4130/KPH-4120/KPH-4120SDK

Mark	Symbol & Description	Part No.
	C709	CKSYF473Z50
	C711	CEA010M50LS2
	C753	CSZAR22K35
	C754 - 757	CEA4R7M16NPLL
	C758, 759	CEA101M6R3LS
	C760	CEA010M50LS2
	C761	CEA100M16LS2

## Amp Unit

### MISCELLANEOUS

Mark	Symbol & Description	Part No.
★ ★	IC551, 552	MB3732
★	D581, 582	ERA15-02VH
	L581 Choke Coil	CTH-083
	RY581 Relay	CSR-052

### RESISTORS

Mark	Symbol & Description	Part No.
	R581	RD1/2PS560JL
	Other Resistors	RD1/4PS□□□JL

### CAPACITORS

Mark	Symbol & Description	Part No.
	C551, 552, 581	CEA100M50L2
	C553, 554	CEA221M6R3L2
	C555, 556	CEA102M16L2
	C557 - 560, 585	CQMA224J50L
	C584 (KPH-4120SDK/WG)	CCG-081
	C585	CQMA104K50L

## Trimmer Unit

### MISCELLANEOUS

Mark	Symbol & Description	Part No.
	L1 Ferri-Inductor	LAU4R7K
	TC1 Trimmer	CCG-090

## LED Unit

Mark	Symbol & Description	Part No.
★	D901, 902 LED (DIRECTION)	LN31C
★	D903 LED (SK)	LN41C
	(KP-4120SDK/WG)	
★	D904 LED (STEREO)	LN21C

## P.C. Board Unit

Mark	Symbol & Description	Part No.
★ ★	S1 Switch (FWD/REV)	ESH1001

## Switch P.C. Board

Mark	Symbol & Description	Part No.
★ ★	S1, 2 Switch (MUTE, MOTOR)	ESN1001
★ ★	S3 Switch (TAPE/TUNER)	HSK-126

## Miscellaneous Parts List

Mark	Symbol & Description	Part No.
★ ★	HD1 Head	EPB1001
★ ★	M Motor Unit	EXA1013
	Front End (KP-4130/EW,	CWB1015
	KP-4120/EW,ES)	
	Front End (KP-4120SDK/WG)	CWB1016